

CREATING
HOPE
IN CONFLICT:

A HUMANITARIAN
GRAND CHALLENGE

Creating Hope in Conflict:
A Humanitarian Grand
Challenge

ANNUAL REPORT

APRIL 2022



OVERVIEW

Creating Hope in Conflict: A Humanitarian Grand Challenge is a partnership of the U.S. Agency for International Development, the U.K. Foreign, Commonwealth & Development Office, the Ministry of Foreign Affairs of the Netherlands, and Global Affairs Canada, with support from Grand Challenges Canada.

From locally manufacturing personal protective equipment, to growing food using methods that require 90% less water, to countering the harmful spread of health misinformation and disinformation in conflict zones, supported innovators are creating real impact and positive changes to the way humanitarian assistance is delivered.

This report details Humanitarian Grand Challenge's growing portfolio of humanitarian innovations, showcases our achievements to date and provides humanitarian donors, agencies, and practitioners with valuable lessons and learning points with a view to strengthening the humanitarian system.

For more information, please visit the Humanitarian Grand Challenge website at www.humanitariangrandchallenge.org.

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TABLE OF CONTENTS

FOREWORD	2
WHO WE ARE	3
PORTFOLIO SNAPSHOT	4
IMPACT BY THE NUMBERS.	5
IMPACT STORIES	6
SHIFTING THE SYSTEM	12
SUPPORTING LOCALLY LED SOLUTIONS TO DRIVE CHANGE	13
ADAPTING AMIDST A GLOBAL PANDEMIC	16
MANUFACTURING IN CONFLICT CONTEXTS	18
COUNTERING HARMFUL ONLINE MISINFORMATION	20
FOSTERING AN INNOVATOR COMMUNITY	23
REDUCING POLITICAL AND SOCIAL BARRIERS TO SCALING HUMANITARIAN INNOVATION	25
WHAT'S NEXT? LOOKING TO THE FUTURE	28



FOREWORD

A MESSAGE FROM THE HUMANITARIAN GRAND CHALLENGE TEAM

We live in times of converging crises: protracted conflicts, dire humanitarian conditions, a pandemic, an infodemic and the climate crisis. Collectively, these crises continue to exacerbate the number of people with unmet humanitarian needs. The current global humanitarian system is under strain and in need of radical transformation. The status quo of humanitarian response is no longer sufficient to effectively and efficiently respond. Despite repeated calls for reform, targets to shift power to local organizations have been missed, even though local responders are often better placed to respond to such crises. We need new solutions that respond to the needs of affected communities – yet less than one percent of humanitarian aid is focused on investing in the innovations necessary to reach them.

Creating Hope in Conflict: A Humanitarian Grand Challenge, a partnership of [U.S. Agency for International Development](#), [U.K. Foreign, Commonwealth & Development Office](#), [Ministry of Foreign Affairs of the Netherlands](#), and [Global Affairs Canada](#), supported by [Grand Challenges Canada](#), have, over the past four years, invested over USD \$20M in 68 innovations across conflict-affected contexts to better address unmet needs and improve the humanitarian system.

This annual report highlights the partnership's systems change efforts, and the game-changing work of the innovators we support. Through our growing portfolio of innovative solutions, we are demonstrating evidence of innovation uptake and adoption by key humanitarian actors, and most importantly, uptake by conflict-affected communities and local stakeholders. Our portfolio and advocacy work also demonstrates our commitment to increasing funding to local humanitarian responders, while contributing to shifting inequitable power dynamics within the humanitarian system, and de-risking critical areas such as renewable energy investment in conflict-affected contexts.

Adapting amidst the challenges brought on by the COVID-19 pandemic is, not surprisingly, a large theme of our annual report. The ongoing crisis has increased the number of people in need across humanitarian and conflict settings, creating additional layers of complexities to reaching those who are most vulnerable. In response to such challenges, our team has accelerated and prioritized innovative and responsive solutions as new ways of providing humanitarian assistance. We continue to adapt to unforeseen challenges, offering flexibility to supported innovators.

This report also highlights the importance of collaboration. Collaboration among the governments involved in this partnership, collaboration within the innovator community, collaboration between us and other humanitarian innovation funds in the ecosystem, as well as collaboration with our technical support partners – Brink and World Food Programme's Innovation Accelerator. The most important collaborations are with people from communities affected by humanitarian crises and with humanitarian workers who respond to emergencies; it's important to note that they are often the same people.

Finally, we would like to thank our former Director, Chris Houston, who has since moved on to his next professional opportunity. We are grateful for his leadership of the Humanitarian Grand Challenge program over the past four years. His passion, integrity and strong humanitarian values were instrumental in shaping the program and for ensuring we are focused on the most critical humanitarian challenges. More now than ever, the Humanitarian Grand Challenge team remains committed to building a more responsive, inclusive, and resilient humanitarian system through innovation.

- The Humanitarian Grand Challenge team

WHO WE ARE

Creating Hope in Conflict: A Humanitarian Grand Challenge is the first innovation challenge to focus on humanitarian crises caused by conflict. Launched in 2018, partners collectively contributed USD \$38 million to enable humanitarian actors and agencies, local emergency responders, and the private sector to work alongside affected communities to respond more nimbly to complex humanitarian emergencies.

Humanitarian Grand Challenge identifies and scales innovations that apply new insights, technologies, and approaches to improve – and in many cases, save – the lives of the most vulnerable people and the hardest-to-reach in humanitarian crises caused by conflict. As well, we seek to create wider systems-level changes within the humanitarian sector.

We provide innovators with access to financial capital, a network of technical experts, potential investors and capacity strengthening resources, as well as foster collaboration and learning within the community to:

- Identify, test, and scale-up solutions to the most difficult problems in conflict settings.
- Advance the humanitarian principles of humanity, neutrality, impartiality and independence.
- Build the case for private sector engagement in conflict settings.

OVER USD \$20 MILLION DISTRIBUTED TO INNOVATORS IMPLEMENTING ACROSS 24 COUNTRIES SOLUTIONS INCLUDE:

- Detecting cholera in water in 30 minutes
- Growing food using methods that require 90% less water
- Locally manufacturing personal protective equipment
- Warning civilians ahead of incoming airstrikes
- Countering the harmful spread of public health misinformation and disinformation

BEYOND THE FUNDING: OUR INNOVATOR SUPPORT PARTNERS

Brink

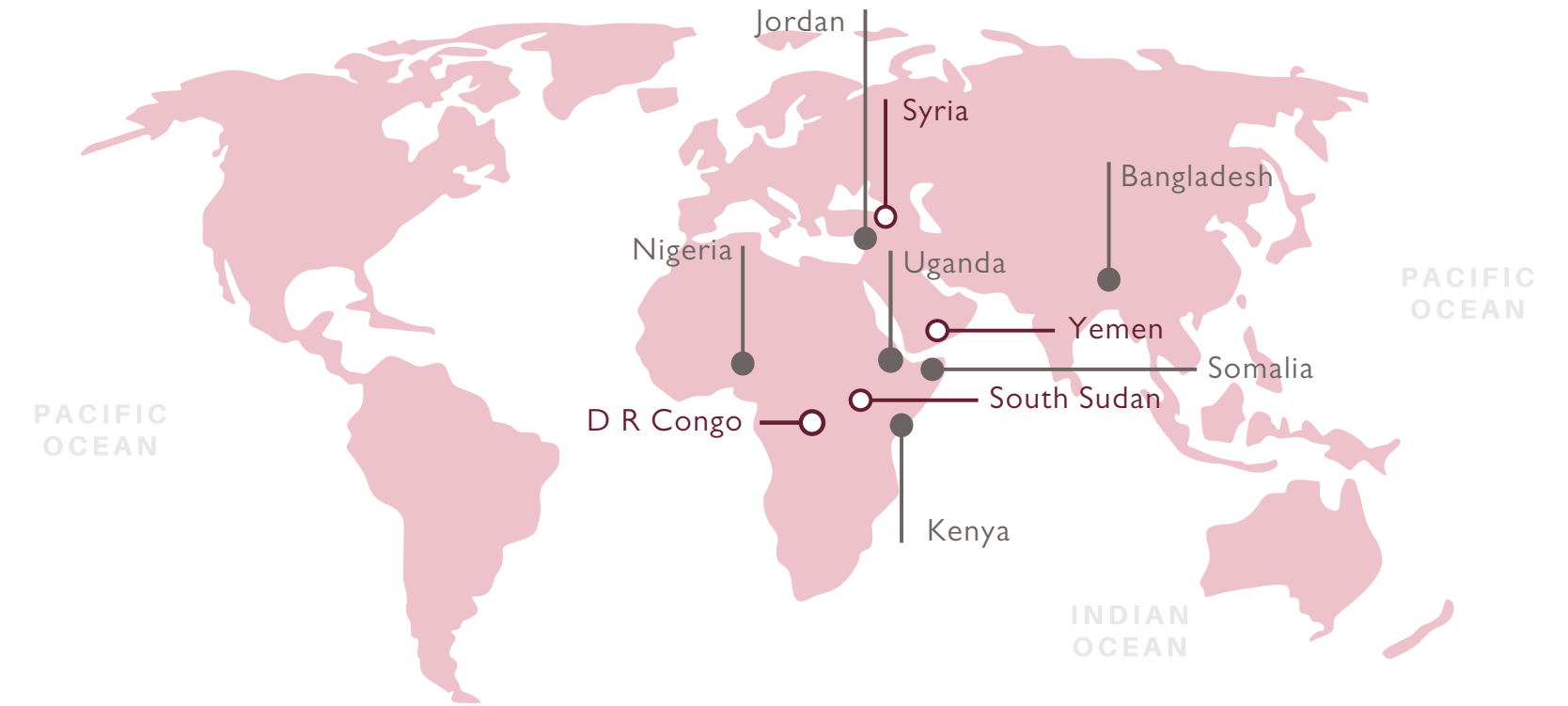
Enables organizations to tackle big challenges with courage and clarity. They work at the intersection of innovation and the behavioural sciences, with the belief that more is possible when we work together. Brink works with groups, communities and networks to learn from one another, collaborate and take collective action.

WFP Innovation Accelerator

Sources, supports and scales high-potential solutions to the United Nations Sustainable Development Goals worldwide. The Accelerator brings innovation expertise and a curated network of mentors and support partners to accelerate innovator scaling journeys.

PORTFOLIO SNAPSHOT

68 INNOVATIONS IMPLEMENTING IN 24 COUNTRIES, INCLUDING:



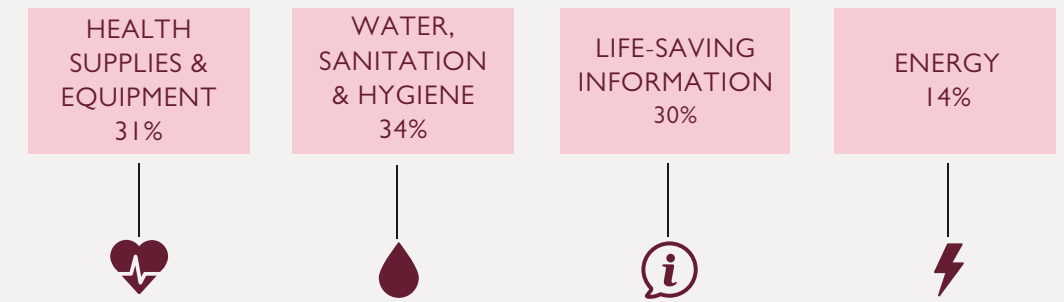
○ Top 4 implementation countries in active conflict regions

The Humanitarian Grand Challenge currently supports



56 Seed innovations and 13 Transition to Scale innovations.

4 FOCUS AREAS IMPROVING ACCESS TO:



IMPACT BY THE NUMBERS



68
INNOVATIONS
FUNDED



2.62 MILLION
USERS ACCESSING
INNOVATIONS



260,215
LIVES IMPROVED



USD \$24 MILLION
ADDITIONAL FUNDS
LEVERAGED



5,860
INTERMEDIARIES
USING INNOVATIONS



107 LIVES SAVED

PHOTO CREDIT: HALA SYSTEMS

IMPACT STORIES

IMPROVING ACCESS TO LIFE-SAVING INFORMATION
HALA SYSTEMS | NORTHWEST SYRIA

THE CHALLENGE

Airstrikes have been the largest single cause of civilian death in Syria since 2013, with an estimated 80,000 civilians killed and 375,000 injured. Airstrikes continue to take the lives of innocent civilians and humanitarian workers.

THE INNOVATION

Sentry Syria, developed by Hala Systems and in collaboration with the White Helmets, is an early warning system that uses artificial intelligence and machine learning to identify and predict threats and send early warnings to civilians 7-10 minutes ahead of an incoming airstrike. Securely hashing and storing data and providing warning through remotely activated air-raid sirens, visual warning systems, and social media messages, the Sentry system saves lives, documents evidence of war crimes and provides credible ground truth in real time.

“[...] we were in the car and I was connected to the Internet, and I received a notification about the presence of warplanes [...] over the area we were in. Immediately when I learned that the warplane was flying towards us, I turned off the car lights and parked the car beside the road until it went flying off. If I was not subscribed [to Sentry Syria], we would have been targeted by the aircraft, because it was searching for bright targets and bombing them at night.”

– Sentry user in northern Syria

ACHIEVEMENTS

HGC-FUNDED RESULTS



2.2 MILLION
people reached by the
early warning system



107
lives saved



363
people avoided injury



162,000
users' experienced
significant reductions in
distress caused by
airstrikes



USD \$15.5 MILLION
secured in additional
investments



PHOTO CREDIT: FIELD READY



PHOTO CREDIT: WHITE HELMETS

IMPACT STORIES

IMPROVING ACCESS TO ESSENTIAL HEALTH EQUIPMENT
FIELD READY | NORTHWEST SYRIA

THE CHALLENGE

Delivering health services in conflict settings is challenging, especially when essential equipment breaks down, and services are rapidly overwhelmed. Importing new equipment is costly and presents many logistical challenges including delays and import restrictions.² As a result, affected populations and the aid workers that serve them do not have what they need, where and when they need it most.

THE INNOVATION

Field Ready leverages technology, local capacities, and markets to locally repair and manufacture essential items. Through Field Ready's innovative approach, healthcare workers in northwest Syria can regain access to and administer critical medical devices that previously were not usable for extended periods due to much needed repairs and maintenance. Where an estimated 60-80% of humanitarian aid is spent on logistical costs, Field Ready's localized approach is contributing to shifting the humanitarian system by reducing the costs, (in many cases, 57% lower cost than importing) time and depletion of environmental resources associated with global supply chains.³

"If Field Ready was not here, it would have been a much slower process to fix these devices. Some devices have been broken for a year or so, and it interrupts our services, especially important devices like the sterilizer. We don't have many engineers and expertise now to fix these devices, so it's very helpful to have Field Ready's engineers working with us and solving these issues for us."

– Field Ready user in northwest Syria

ACHIEVEMENTS

HGC-FUNDED RESULTS



152
life-saving medical
devices repaired



37,234
patients benefitted from
access to repaired critical
medical devices



23,280
patients had measurable health
improvements resulting from
the repaired device

Field Ready's team repaired an ambulance incubator, which would have cost at least USD \$2,500 through traditional means. Through Field Ready's approach, the same incubator was repaired locally and brought back into use for USD \$700. This small-scale example generated a cost savings of over 70% (USD \$1,800) and mitigated many transportation risks.

IMPACT STORIES

IMPROVING ACCESS TO ESSENTIAL HEALTH SUPPLIES
WHITE HELMETS | NORTHWEST SYRIA

THE CHALLENGE

Nearly ten years into the Syrian crisis, millions of vulnerable people continue to endure immense suffering, while the COVID-19 pandemic exacerbates existing and ongoing humanitarian needs. As COVID-19 continues to spread, personal protective equipment (PPE) is needed in northwest Syria to protect healthcare workers and reduce COVID-19 transmission.

THE INNOVATION

To help over four million people in northwest Syria, the White Helmets offer the necessary response to the lack of PPE by repurposing a garment factory to locally manufacture personal protective equipment for healthcare workers and White Helmets volunteers.

"Being a part of the communities in which we work, our continuous work with the most vulnerable groups, our relationship with those working in the humanitarian response, and our desire to provide the best response enabled us to identify gaps during the COVID-19 pandemic and respond with a mechanism that benefits society in more than one way, hence the idea of building local manufacturing capabilities to overcome the ongoing supply difficulties faced by the humanitarian sector in northwest Syria. Our teams working in the field are in close contact with the virus and are at high risk of infection. They are grateful for the availability of adequate protective equipment that ensures their safety and the safety of their families."

– Zahra Aldyab, White Helmets

ACHIEVEMENTS

HGC-FUNDED RESULTS



4.5 million
surgical face masks,
50,000 protective gowns
and 75,000 face shields
produced



11,700
health workers and
volunteers serving four
million people, were
provided PPE



Commissioned an
incinerator to safely
dispose of used PPE and
other medical waste

White Helmets is the first Syrian organization to manufacture PPE for COVID-19 response in Syria.

² McMahon, Peters, G. A., Ivers, L. C., & Freeman, E. E. (2020). Global resource shortages during COVID-19: Bad news for low-income countries. *PLoS Neglected Tropical Diseases*, 14(7).

³ L. N. Van Wassenhove, "Humanitarian Aid Logistics: Supply Chain Management in High Gear", *Journal of the Operational Research Society* 57(5):475-489, May 2006.



PHOTO CREDIT: COMMUNITY INNOVATION HUB, SEHAT KAHANI



PHOTO CREDIT: ENERGY PEACE PARTNERS

IMPACT STORIES

IMPROVING ACCESS TO ESSENTIAL HEALTH SERVICES
COMMUNITY INNOVATION HUB | PAKISTAN

THE CHALLENGE

Ongoing military insurgency in northwest Pakistan, combined with natural disasters, has displaced over 5.3 million people. The public healthcare system in affected provinces is fragile and suffers from healthcare provider shortages. This has made it difficult for many, especially women and girls, to have access to affordable and quality primary health care.

THE INNOVATION

Community Innovation Hub has developed a holistic telemedicine solution, called Sehat Kahani, that consists of a mobile application, a 24/7 helpline, and nurse-assisted e-clinics for those without internet connectivity. The virtual health platform addresses the disparities in health care for conflict-affected and host communities in Pakistan and leverages existing capacities of women health physicians – many of whom were previously unable to access employment opportunities outside of the home due to socio-cultural barriers – and who now can provide remote health services from home.

"I live in Kohat and at night there was no hospital where I could go. [...] I was having severe shortness of breath, I had high grade fever [...] there was no doctor to cater at such hours [...]. My daughter got in touch with the doctor through the Sehat Kahani software. Immediately, my family arranged oxygen for me at home, the doctor started [me] on medications [...] I even received calls from the Sehat Kahani team to ask me how I was doing even several days later. I feel this was a much-needed service during the lockdown."
– Sehat Kahani user in Kohat, Pakistan

ACHIEVEMENTS

HGC-FUNDED RESULTS



18,928

patients across five e-clinics accessed women physicians through nurse-assisted virtual health services



27,582

patients accessed physician and specialist care through the mobile application



2,251

qualified women doctors re-joined the healthcare workforce, thus countering the country's "doctor bride" phenomenon



USD \$1 MILLION

secured in additional investments for the organization, making it the first time a women-led health tech company in Pakistan has raised Pre-Series A funding

IMPACT STORIES

FINANCING RENEWABLE ENERGY IN CONFLICT SETTINGS
ENERGY PEACE PARTNERS | DEMOCRATIC REPUBLIC OF CONGO

THE CHALLENGE

Of almost USD \$300 billion in global renewable energy investment, only 6% goes to the Middle East and Africa and most is spent in stable contexts. Climate change has dire consequences for populations in fragile states, that are not only climate-vulnerable but also often conflict-affected and energy poor. Renewable energy can have multiple short- and long-term benefits in crisis contexts, but its adoption requires policy shifts, and financial innovation to link existing solutions with vulnerable populations.

THE INNOVATION

Energy Peace Partners created the Peace Renewable Energy Credit (P-REC) to facilitate private sector investment in clean energy projects in conflict zones. The P-REC links private-sector investment via the \$1 billion+ Renewable Energy Credit market to high-impact projects in conflict settings, creating new revenue streams to support clean energy project development in places that lack other economic incentives.

"With P-RECs, companies like Microsoft that are looking to procure renewable energy can invest in regions that are the most impacted by climate change and that are currently deprived of access to modern energy. Companies can maximize the impact of their investments not only from a carbon reduction perspective, but also from a climate equity perspective."
– Vanessa Miler, Director, Energy Innovation and Impact, Microsoft

ACHIEVEMENTS

HGC-FUNDED RESULTS



3 P-REC DEALS

purchased by Microsoft, Google and Block



USD \$280,000

of additional capital unlocked and invested into three solar electrification projects: public streetlights and rural mini grids in D R Congo and a solar powered teaching hospital in South Sudan



28,092

residents benefit from additional safety and security resulting from nighttime public streetlights



72%

of local businesses report being able to operate longer hours into the evening, which has strengthened economic activity



SHIFTING THE SYSTEM

HGC aims to foster systems change within the humanitarian sector by challenging the underlying models through which traditional humanitarian assistance is delivered. Key avenues we have identified include:



Innovators funded by Humanitarian Grand Challenge have already found success in securing uptake of their solutions by key humanitarian stakeholders:



The Rainmaker Enterprise is collaborating with World Food Programme (WFP) South Sudan. Rainmaker Enterprise's solar-powered water supply system serves over 3,000 people in the Tonj region of South Sudan. WFP is providing funding and technical support to Rainmaker Enterprise to further boost local food production capacity.



York University's Safe-Water Optimization Tool, which leverages artificial intelligence to ensure water is safe to drink, is being used in the field by United Nations High Commissioner for Refugees (UNHCR), Médecins Sans Frontières, and Aquaya at sites in Nigeria, Tanzania, and Uganda.



Murmurate, a tool that helps organizations in Nigeria and Syria use artificial intelligence to identify harmful online COVID-19 health misinformation and counter it, has since been picked up by a number of organizations in a variety of contexts. These include the Jordanian Ministry of Health, Chemonics (for work in Sudan), the UK Foreign Commonwealth and Development Office (the Balkans), and Development Assistance International Inc. (Afghanistan).

Our program also has been successful in supporting local innovators in conflict-affected countries. More work still needs to be done across the humanitarian system to improve gender representation in innovation and to directly fund more locally-owned solutions. In an effort to encourage other humanitarian funders and actors to follow suit, we produce a variety of public-facing [reports](#) and [learning documents](#), highlighting the experiences, challenges, and successes of supported innovators. Through these communications, we aim to inspire the broader humanitarian community and influence transformative change throughout the humanitarian system.

PHOTO CREDIT: IRISTICK
USING SMART GLASSES TO CONNECT REMOTE MEDICAL STAFF WITH GLOBAL MEDICAL EXPERTISE, D R CONGO

SUPPORTING LOCALLY-LED SOLUTIONS TO DRIVE CHANGE



PHOTO CREDIT: UNION OF MEDICAL CARE AND RELIEF ORGANIZATIONS (UOSSM USA)

THE CHALLENGE

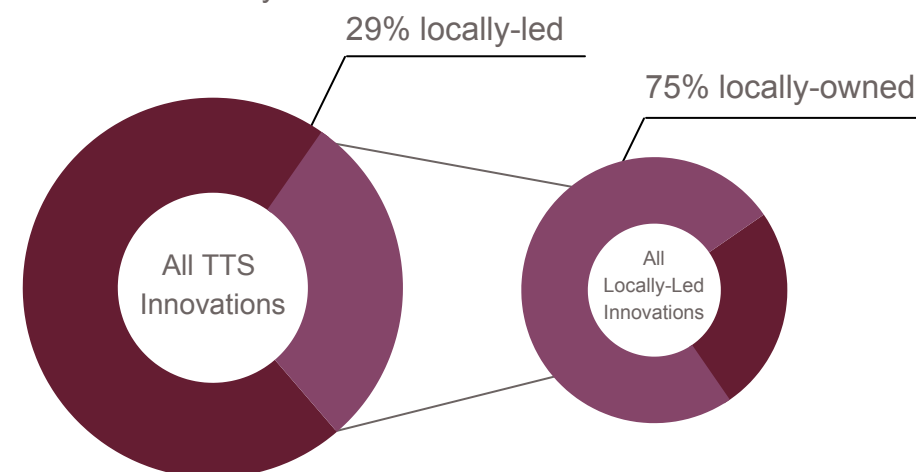
At the World Humanitarian Summit in 2016, the [Grand Bargain](#) set out an ambitious commitment to ensure that by 2020, 25% of humanitarian financing would be directed to local and national responders. Despite this call for systemic change, the humanitarian system continues to grapple with a multitude of challenges, inactions, and barriers to essential reforms that should be addressed to fully realize localization commitments.

In 2020, only 4.7% of total humanitarian funding was provided to local and national entities,⁴ which makes it no surprise that local organizations often struggle with limited resources.

OUR APPROACH

Humanitarian Grand Challenge is committed to funding more locally-led solutions to drive change in the humanitarian system, and we have been learning throughout each funding round how to do better.

Below is a breakdown of the Humanitarian Grand Challenge Transition to Scale Portfolio by those locally-led and locally-owned:



People directly affected by conflict are best placed to address their own acute humanitarian challenges. Due to their contextual knowledge and connections to affected communities, local responders are well placed to reach affected people in insecure settings, but often lack sufficient resources to effectively respond to crisis.

We are committed to fostering systems change by building an evidence base to illustrate the value and achievements of local innovation, with a view also to dismantling unfounded perceptions that localization leads to increased risk.⁵

WHAT WE LEARNED

Investing in trust-building helps build local relationships.

Fostering relationships and trust with local communities takes time and effort, but it is a critical investment to ensure local brokers and communities are engaged and willing to adopt the innovation. Even the seemingly greatest solutions can encounter significant roadblocks when innovators fail to build effective relationships with local communities and power brokers. Innovators with existing relationships and connections in the region are often able to mobilize and generate community buy-in more efficiently and with less resistance.

Dr. Aisha Jumaan, from Yemen Relief and Reconstruction Foundation, highlights the importance of never underestimating the power of informal relationship-building with local stakeholders:

"It was a Yemeni driver, with whom I had exchanged pleasant interactions in the past, that provided me with access to the community in a neglected region of Yemen and introduced me to local power brokers, enabling my team to progress towards gaining community buy-in for the innovation."

⁵Barbelet, V., Davies, G., Flint, J. and Davey, E. (2021) Interrogating the evidence base on humanitarian localisation: a literature study. HPG literature review. London: ODI <https://odi.org/en/publications/interrogating-the-evidence-base-on-humanitarian-localisation-a-literature-study>.

Increased investment in local solutions goes together with the need to adapt support offerings.

Innovator support platforms cannot apply a "one size fits all" approach to support activities. Support platforms should consider the unique and varied needs of local innovators and tailor services accordingly.

The humanitarian system tends to operate exclusively in English, even though most local innovators and local communities are not native English speakers. To maximize engagement in and improve access to support offerings, we are exploring ways to offer language-based activities using on key languages spoken by the innovator cohort.

Funding local infrastructure strengthens local economic opportunities.

By directly funding local humanitarian supply chains, encouraging local manufacturing and better leveraging local capacities, there is potential to increase employment opportunities for local communities, which helps build resilience and local sustainability.

Community Innovation Hub's innovation Sehat Kahani – a digital health startup led by two women from Pakistan - has leveraged existing capacities of nearly 5,000 female health physicians in Pakistan. Many of these women, who were previously unable to access employment opportunities outside of the home due to socio-cultural barriers, now can provide remote health services and access employment opportunities from their homes.

Funding strong local solutions and being an effective convener are HGC's value-add.

The humanitarian innovation ecosystem reflects the humanitarian system itself: it is highly unequal, with power and funding still concentrated in the global north, and

innovators from the global south face greater barriers to accessing investment capital and scaling an innovation. We are learning that one of the best ways to support scale and sustainability of local innovators is to improve access to funding sources by showcasing them in front of large donors, potential investors and humanitarian agencies.

In November 2021, we published a study entitled How Do Great Ideas Scale?, which sought to identify and outline key lessons from humanitarian innovations that have successfully scaled.

It is noteworthy that all innovators in the five case studies explored were from and based in the global north; they had access to decision-makers and funders and were able to get an audience in international organizations to showcase their ideas. The same opportunities are clearly not available to everyone with a potentially transformative idea.

On a positive note, however, locally-led Rainmaker Enterprise has now officially partnered with World Food Programme (WFP) South Sudan through WFP's Sprint Programme to provide farmers in South Sudan with access to solar-powered irrigation and training on climate-resistant farming methods.

Not only is this evidence of uptake of a locally-led innovation by a key humanitarian agency, but also, one of the key links in the chain of events is Rainmaker Enterprise being featured at our sensemaking workshop last year, which piqued the interest of WFP staff and opened the door to discussions and collaboration.

Investment in regional outreach support and activities enhances our ability to better source locally-led innovations.

During calls for proposals, outreach efforts included targeted social media and the engagement of regional ambassadors to help raise awareness through local networks in the Middle East, North Africa, and Sub Saharan Africa. Animated videos were produced to explain the program and application procedures. The videos were made available in various languages and dialects including

English, French, Swahili, Libyan Arabic, Palestinian Arabic, Syrian Arabic and Yemeni Arabic. We are currently also reviewing our application processes to determine the feasibility of accepting proposals in languages other than English.

Addressing our position of power, that may contribute to inequality, racism, discrimination, and oppression, should help improve our effectiveness.

We acknowledge the imbalances that contribute to these problems and are committed to examining how we may inadvertently be contributing to these issues and the ongoing legacy of colonialism. We are on a long and collaborative journey to decolonize our practices and approaches to make them more equitable, accessible, and innovator- and community-centric. These are deep-rooted problems, and we will stay the course, continuing to advocate for meaningful change on these pressing social issues, as well as across the humanitarian innovation ecosystem more broadly.

While we are still early in the process, here are our preliminary plans on the way forward:

- We intend to streamline our due diligence requirements to enable more flexible funding mechanisms to better respond to emergent crises. Traditionally stringent and inaccessible requirements are a barrier to many local innovators directly accessing innovation funds. The humanitarian system needs to do better at alleviating such barriers. As this requires a systems lens, we also are making efforts to build alliances with other funders and agencies that share our commitment.
- We are committed to building a more locally-owned Transition to Scale (TTS) pipeline that highlights the talents of conflict-affected communities. To date, we have funded three TTS innovations that are locally-owned and managed – White Helmets, ColdHubs, and Altech – but we can do better. We will revisit our TTS sourcing and selection processes, and better equip locally-owned innovator applicants to increase chances of success.



THE CHALLENGE

As the pandemic continues to disrupt our lives, humanitarian organizations working in conflict settings are having to adapt to new and unforeseen challenges.

OUR APPROACH

We continue to support innovators by offering flexibility in terms of project timelines, budget allocation, and rescoping of activities. At the onset of the pandemic, our partnership responded with speed and unity to source new innovations and equip conflict-affected communities with key forms of protection against the global health crisis. We also collaborated with innovators and organized a webinar on COVID-19 lessons learned to share experiences, challenges and adaptation strategies.

WHAT WE LEARNED

Enabling the flexibility to pivot.

Amidst the ever-changing pandemic conditions, the flexibility to pivot and adapt to meet emergent needs became apparent.

The Syrian American Medical Society (SAMS) were unable to deliver in-person training activities to community mental health workers due to new safety protocols and restrictive travel policies. Instead, the team pivoted to deliver online training activities. In order to mitigate concerns around information retention and participant engagement, the team chose to complement the online live training with additional videos. The videos allow the team to maintain a higher quality of training for participants, while also ensuring safe and ethical mental healthcare provision.



The importance of fostering new and unexpected partnerships.

By establishing a collaborative community of innovators, productive partnerships emerged that would not otherwise have been forged.

A consortium of three innovators we previously funded - Field Ready, NeedsList and Humanitarian OpenStreetMap Team - submitted a joint proposal in response to our call for innovations to address COVID-19-related challenges. The group had no previous collaborations before meeting through our platform, which illustrates the success of our community-building approach. The application was successful, receiving funding to digitally map local healthcare needs.

The need to address unexpected restrictions.

As the global health crisis evolves, innovators had to be nimble in response to unexpected restrictions.

Travel constraints.

With COVID-19 restrictions, travel and access to local communities limited a variety of project activities, from staff training to in-field data collection.

Murdoch Children's Research Institute staff were not able to travel to Afghanistan to conduct training with their local project partners. The team adapted by providing training via livestream and downloadable video.

Supply chain challenges.

Unanticipated costs and delays, largely linked to the ongoing pandemic, surfaced. Obstacles included difficulties in identifying service providers, and in securing sufficient and cost-effective supplies in conflict zones.

Initially, Welthungerhilfe imported technical materials from Kenya. However, due to logistical challenges exacerbated by pandemic trade restrictions, the team found a way to procure 100% of the project materials locally. This has the added benefit of improving the project's sustainability for improved scalability.



PHOTO CREDIT: SUNBUCKETS

THE CHALLENGE

Sanctions and disrupted supply chains limit the flow of items that can enter countries, so getting essential supplies into conflict zones and fragile settings is complex. The process of manufacturing, and more specifically manufacturing in conflict-affected areas, is complicated and dynamic.

OUR APPROACH

Humanitarian Grand Challenge has been investing in innovations that are focused on manufacturing products. Where possible, we seek to simplify and/or localize the manufacturing process for humanitarian settings, and we have invested in innovators such as [SunBuckets](#), [SurgiBox](#), [Field Ready](#) and the [White Helmets](#).

Local manufacturing not only has the potential to save time and money, it also boosts local economies and builds local resiliency and capacity. Where global supply chains and threats of violence add challenges in reaching conflict-affected communities with the aid they need, setting up and

funding local manufacturing within local contexts shifts the system towards local production and sustainability.

WHAT WE LEARNED

Localizing manufacturing has a domino effect.

An increased focus on local manufacturing solutions enables the bypass of lengthy supply chains and border restrictions and can alleviate challenges posed by sanctions. As a result, humanitarian needs are met faster and more efficiently. Local manufacturing also increases local employment opportunities, helping to build resilient and sustainable communities. Where an estimated 60-80% of humanitarian aid is spent on logistical costs, local manufacturing influences systems change by reducing the costs, time, and depletion of resources associated with global supply chains.⁶

⁶Office for the The Co-ordination of Humanitarian Affairs (OCHA). 2015. "Shrinking the Supply Chain: Hyperlocal Manufacturing and 3D printing in Humanitarian Response". OHCA Publications.

Field Ready has taken an innovative approach to manufacturing, transforming supply chain logistics in Syria by localizing technology, technical expertise and resources. Health workers are able to regain timely access to and administer critical medical devices that previously were not usable due to much needed repairs and maintenance.

Quality assurance is critical.

Maintaining superior quality assurance standards is critical, especially when manufacturing potentially life-saving and/or complex products. Quality management methods, such as failure mode and effects analysis, are useful to guide design improvements and better inform quality management.

While there are many merits to simplified or “pop up” manufacturing (e.g. through 3D printing and injection molding), some products are far more complex and require very specific technical know-how.

SunBucket's solar cooker can be charged to 400° Celsius, making it a complex and potentially combustible product. Since it operates at such a high temperature, quality assurance is paramount to ensure the safety of its users. Simplified or even localized manufacturing approaches proved to be limited due to the need for sufficient insulation and robust manufacturing practices to ensure high quality components.

SurgiBox - the innovator behind the design of an ultraportable, inflatable and sterile surgical field - also faced similar challenges because manufacturing complex medical devices means innovators must meet stringent medical regulations.

The value of user research and feedback cannot be underestimated.

When designing a product for people affected by conflict, the product must be accessible, reliable, and cost-effective. The best way to ensure users' needs are being met is to ask

– request feedback from potential customers at every stage of development. Validate assumptions around users' needs and challenges, and ensure user feedback continuously informs product iterations.

The SunBuckets team conducted focus groups with users of their clean cooking solution and learned that one of the unintended limitations of switching to a SunBucket is the loss of light produced by fire from traditional cooking methods.

People were unable to use SunBuckets after dark even after they had enough charge to cook meals as there was no light. SunBuckets thus decided to bundle a solar lighting solution along with the SunBucket cookers. This adaptation to better meet user needs forms part of the next phase of SunBuckets' transition to scale, and, with follow-on funding, will be further validated alongside a pay-as-you-go business model.

Local manufacturing can reduce environmental impacts and contribute to sustainability.

Manufacturing is a large hurdle in the fight against the climate crisis, accounting for a third of global greenhouse gas emissions. The environmental value of local manufacturing and repairs has systems-changing potential to significantly alter the carbon footprint of the USD \$28-billion-dollar global humanitarian system - a system that indirectly contributes to environmental degradation, weather extremes, food insecurity and other severe consequences of climate change. Specifically, the environmental burden of logistics and supply chains in the humanitarian system remain a large factor in the increased environmental footprint of humanitarian organizations. By localizing humanitarian operations to procure, manufacture, distribute and repair goods closer to affected communities, the humanitarian system can contribute to a reduction of the harmful impacts of the climate crisis.



COUNTERING HARMFUL ONLINE MISINFORMATION

PHOTO CREDIT: TRANSLATORS WITHOUT BORDERS
USING CUTTING-EDGE LANGUAGE TECHNOLOGY TO ACCURATELY CAPTURE NEEDS OF THOSE HARDEST TO REACH, NIGERIA

THE CHALLENGE

The increasing prevalence of misinformation and disinformation, for example related to the COVID-19 pandemic, disproportionately harms communities in humanitarian contexts. Misinformation is rapidly transmitted through online social networks much like a virus: spreading highly infectious information from one host to another. Access to reliable and accurate information is critical to helping people living in the most precarious humanitarian contexts, where timely assistance often cannot reach them.

OUR APPROACH

To stimulate innovative methods to counter misinformation and improve access to timely, accurate information, Humanitarian Grand Challenge is investing in solutions aimed at protecting conflict-affected communities - in Yemen, Syria, Nigeria, D R Congo and South Sudan - from the effects of harmful online mis/disinformation.

Approaches to effectively identify and counter online misinformation are an emerging area of academic work, which we are excited to explore and contribute to through the portfolio. Working in partnership with [Johns Hopkins Bloomberg School of Public Health](#), we are leveraging lessons from their Global mHealth Initiative, as well as building and mobilizing a community of practice among innovators and academics to identify the most promising solutions and approaches. Alongside this work, we are also developing standards of evidence to assess the effectiveness of interventions targeted at countering misinformation in humanitarian contexts.

Johns Hopkins University Global mHealth Initiative connects faculty, staff and students in interdisciplinary collaborations in the field of digital and mobile health. The mission is to develop responsive innovations and provide rigorous evidence-based support for mobile information and communications technologies.

WHAT WE LEARNED

Identifying online misinformation: the first step to effectively developing strategies to counter it.

Given the volume of online misinformation, solutions to identify it can benefit from leveraging state-of-the-art approaches in machine learning that can decipher text, as well as images, and assess them for accuracy. This step is foundational to then countering misinformation. Investments in such technologies may not have an immediate or direct measurable impact on the health or wellbeing of conflict-affected communities, but are catalytic, as such technology-based tools to identify misinformation can be adapted and used across different settings.

Murmurate enables any business or organization to build artificial intelligence quickly and cost-effectively by automating data labeling and simplifying model building.

We funded Murmurate's technology to identify harmful COVID-19 disinformation circulating online in communities in Syria and northern Nigeria, to better equip local media partners to develop responsive social media campaigns to counter harmful narratives.

Debunking and prebunking: emergent approaches to countering misinformation.

Once misinformation content and trends are identified, there are a variety of strategies employed to counter harmful misinformation, and existing literature points to two key approaches – debunking and prebunking.

- Debunking involves rapidly identifying and addressing false information to quash rumours that are in circulation. Despite efforts to confute harmful narratives, evidence suggests they still may continue to influence thinking.
- Prebunking, on the other hand, is rooted in the psychological framework of inoculation theory and -

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as with biological vaccines - focuses on 1) building up immunity against misinformation by forewarning about the possibility of being misinformed and 2) exposing users to small doses of the correct information to help them recognize when they might be misled.

Evolving literature in the broader realm of countering harmful misinformation tells us that, to be most effective, misinformation mitigation solutions should focus on preventing misinformation (prebunking) from spreading in addition to debunking it after it has spread.

Measuring the effectiveness of solutions designed to counter misinformation: building consensus on the "right" metrics.

Given the breadth of tools used to counter misinformation, measuring the effectiveness of solutions is not a "one size fits all" approach. Unique solutions call for tailored approaches to measuring effectiveness and impact on conflict-affected communities. For some innovations, assessing technical effectiveness of the solution (such as the sensitivity of the algorithms used to detect misinformation) and adoption of the solution by clients may be a more appropriate strategy than measuring downstream impacts on affected communities.

Strengthening community resilience to counter the harmful effects of online misinformation: critically needed.

Effective response efforts include community-based awareness campaigns that focus on building local community skills and resilience to protect themselves from online harm.

SecDev Foundation is working with local partners in Yemen to enhance the abilities of conflict-affected communities to identify and effectively counter harmful public health misinformation. Guidance is produced and disseminated across trusted local networks via emergency alerts, targeted online and offline awareness campaigns, radio bulletins, and best practice guidance.

Ensuring meaningful online and offline engagement with community stakeholders: developing trust.

Building and maintaining trust among local partners and community stakeholders is critical to ensure lasting impact. Sources of "more reliable" evidence can evoke skepticism among the community due to existing ideological stances. This is particularly true in complex and often politically charged conflict contexts. To mitigate such risks, innovators should ensure they have a solid understanding of underlying ideologies and cultural sensitivities.

The Sentinel Project is working with local partners in South Sudan to enhance its WikiRumours software. The innovation, called 'Hagiga Wahid' in Arabic, enables geographically distributed teams to collaborate on monitoring, verifying, and countering the spread of harmful rumours and misinformation that contribute to intercommunal conflict.

Understanding underlying conflict dynamics and risk factors: importance of mitigating risk.

Humanitarian workers in the misinformation space can be exposed to significant risk. In some cases, sources or spreaders of misinformation in conflict contexts may be affiliated with armed actors, which can pose risk to local partners and communities. It is critical for innovators to develop risk identification and mitigation frameworks to protect partners and local communities from harm.



PHOTO CREDIT: THE SENTINEL PROJECT, WIKIRUMOURS (HAGIGA WAHID).

FOSTERING AN INNOVATOR COMMUNITY

PHOTO CREDIT: SEBASTIEN WIDMANN

THE CHALLENGE

As the scale of humanitarian emergencies continues to grow at a rate that surpasses the capacity of any one partner or sector to respond, new ways of thinking and working together are imperative.

OUR APPROACH

In partnership with Brink and the World Food Programme (WFP) Innovation Accelerator, we are supporting innovators to accelerate impact, while also working towards strengthening the innovation ecosystem. Our innovator support platform provides innovators with a unique opportunity to collaborate with a community of humanitarian innovators and foster connections with key stakeholders in the sector.

Brink has been strengthening a community of practice amongst innovators that enables teams to learn from each other's unique lived experiences, identify collaboration opportunities and work together to drive the sector forward. Through activities such as speed networking sessions, collaboration workshops and innovator-led webinars, Brink is actively supporting innovators to share and learn from each other's challenges and successes, to enable greater success in their own work.

WFP's Innovation Accelerator provides mentorship, business coaching and technical guidance to support funded innovators to accelerate their path to scale. WFP's offerings include running an annual Innovation Accelerator Week, pitch nights for potential investors, thematic deep dive workshops and strategy labs, and managing a roster of expert mentors.

WHAT WE LEARNED

The importance of establishing an innovator community.

Innovators value developing connections with each other and strengthening relationships with relevant initiatives and actors. With this aim, we have been facilitating opportunities for innovators to network, discuss key challenges, and identify opportunities to collaborate with each other. By having such spaces to speak candidly about challenges, collaboration opportunities emerge within the community.

During a networking session focused on working in Syria, Muzna, a White Helmets' team member, noted that no one on the call was based in Syria. With the belief that "setting something up for those on the ground" would enable local innovators to "discuss struggles and opportunities", Muzna handed the idea over to colleagues in Gaziantep and northern Syria.

As a result, several innovators met in-person to discuss their projects and explore ways to collaborate. This kind of session will pave the way for future in-person meet-ups within the innovator community, which will create more opportunities for partners on the ground to develop meaningful collaborations. An added benefit is that innovators based in these areas do not need reliance on unstable internet connections for virtual sessions and they can network in their native language.

Pitch events: Getting innovators in front of the right audiences.

As part of our Innovation Acceleration Week, WFP employs experts to support innovators in crafting effective pitches, as well as provides opportunities for innovators to pitch their innovations to potential investors through a series of "pitch nights". The demand is high from innovators for this type of offering, so we increased the frequency of pitch events to twice per year. Through half-day pitch workshops, innovators work on developing their pitch storyboards and receive tailored feedback and guidance.



With support from WFP Innovation Accelerator and Brink:

- Innovators are encouraged to access a network of peers, mentors and experts to learn from and work with, creating a community for change.
- Innovators are equipped with the tools and skills they need to test and scale their innovations.
- Innovators are encouraged to share their innovation and lessons learned with the community and broader sector.

REDUCING POLITICAL AND SOCIAL BARRIERS TO SCALING HUMANITARIAN INNOVATION

PHOTO CREDIT: YEMEN RELIEF AND RECONSTRUCTION FOUNDATION

THE CHALLENGE

Within the humanitarian innovation landscape, innovators often experience a myriad of challenges and barriers along their journey to scale, particularly as they work across volatile conflict contexts with dynamic security conditions. Although existing literature highlights the challenges and barriers to scale in humanitarian innovation, social and political barriers in the sector - such as gender, racial inequity, and imbalances in power – add another layer of complexity to already-defined barriers.

OUR APPROACH

Acknowledging the gap coverage of certain barriers in humanitarian innovation research, we conducted semi-structured interviews with four funded innovators and have been generating a series of innovator profiles to outline the social and political factors that complicate scaling journeys in humanitarian contexts.

We are committed to advancing women-led and locally-led solutions to achieve scale, so when selecting innovators to profile, we focused on identifying the key barriers to women-led and/or locally-owned organizations and locally-led teams. Below are the preliminary lessons emerging from our analysis.

WHAT WE LEARNED

Funding resources within the technology-based innovation landscape are limited and inaccessible to women.

The male-dominated culture of private investment not only creates an unwelcoming and/or intimidating application process for most women, but it can also create specific barriers to managing investment capital, which disproportionately affects women. As a result, women-led organizations struggle to gain legitimacy and scale

due to the prevalence of gender inequities in the humanitarian innovation and venture capital spaces.

"It is often/always has been a male-dominated space. This is particularly true in humanitarian or conflict zones because high-risk environments typically attract male investors who are willing to take risks."

- Bonnie Chiu, Co-founder and CEO, Humanity Data Systems

Humanitarian actors can help amplify the voices of women-led innovator teams, profile their achievements, and participate in the development of collective actions to ensure the humanitarian funding space becomes more accessible to women. These approaches may include tracking and championing women-led innovations and being mindful of gender balance on selection committees. Innovator support services should also be designed in a manner that enables women-led teams to meaningfully engage. Project milestones should be realistic and achievable, to ensure women innovators are set up to succeed amidst challenging operating contexts, while still maintaining a reasonable work-life balance.

Humanitarian Grand Challenge recognizes the importance of supporting women-led innovators to excel in the humanitarian innovation space, and so we intend to improve efforts to source and fund more women-led innovations at the TTS level, particularly women from conflict affected communities.

Working in volatile conflict contexts, particularly across politically-contested regions, generates unique operational challenges that significantly complicate, delay, or derail project implementation.

Within conflict settings, innovators are faced with an abundance of challenges, specifically those around managing sensitive political relationships and geo-socio-political tensions that can significantly complicate, delay, or derail project implementation.

"Keeping a business-as-usual approach for all organizations doesn't build a meaningful partnership, especially for humanitarian work in conflict zones, where uncertainty is often the case. [Funders are] often behind the clock in the humanitarian sector. This is very frustrating [...] because there are people [...] relying on these projects on a daily basis."

- Muzna Dureid, Liaison Officer, White Helmets

"Project proposals are always best-case scenarios when working in volatile conflict contexts...[once implementation begins] we are always in a problem-solving mode in collaborating with local communities and partners, and leveraging advice, resources and relationships."

- Dr. Aisha Jumaan, Founder, Yemen Relief and Reconstruction Foundation

Donor flexibility and agility has the potential to better enable swift and responsive project implementation in conflict settings, allowing innovators to adapt to dynamic realities on the ground and respond more effectively and efficiently to local community needs and feedback. Adaptive solutions – such as the timely provision of no-cost extensions, rapid emergency fund transfers, budget adjustments, ongoing communications with innovators, and greater flexibility to pivot – enable innovators to better respond to complex and fluid operational environments.

Local organizations based in conflict-affected countries experience challenges related to accessing and/or engaging with innovation funds and initiatives.

Despite international efforts, such as the Grand Bargain, aimed at directing more funding towards local humanitarian actors, there has been limited progress made toward localization agendas, and so international agencies continue to receive the majority of financing.

This overarching funding disparity has fostered an environment that makes it very challenging for local organizations to directly access funding, which also has knock-on effects on their capacity to engage with new and innovative ideas and deliver solutions.

“Attracting funding to scale is incredibly challenging. The fact that we are a North American company, headquartered in the West, speaking the same language and perhaps having a stronger understanding with the systems that most donors operate within, has been critical to any success we have had. We hold a privilege that other innovators, based in or closer to the humanitarian crises, lack and yet the challenges are still daunting, and at times paralyzing.”

- Natasha Freidus, Co-Founder & CEO, NeedsList

“To get direct funding, it is difficult as a grassroots organization. HGC was the first direct fund[er] [...] Donors ask for third parties [to lead on funding agreements] so that makes it challenging and [as a result], we get less funding. Working in a grassroots organization is not empowering when they are asked for a third party. This is why funding from HGC is important and empowering because it is the first direct funding for White Helmets.”

- Muzna Dureid, Liaison Officer, White Helmets

Humanitarian decision-making spaces are primarily white-dominated, and racial inequities create specific challenges.

White supremacy and systemic racism in the humanitarian system are prevalent and deeply ingrained in the historical roots of humanitarian assistance. In recent years, several international organizations have faced allegations of oppressive and racist practices. The overwhelming majority of senior leadership positions in international organizations are held by white men. Even among international feminist organizations, “white women occupy the majority of leadership and decision-making roles,” which can disempower racialized women striving to climb organizational ladders. Additionally, the prevalence of age, disability, and racial inequities in the system often leads to the people least affected by humanitarian situations making decisions regarding the lives of people in the most fragile states.

The humanitarian community needs to create safer spaces for local, global south, racialized, and other marginalized groups of innovators and collectively work towards acknowledging and addressing racial inequities in the system.



PHOTO CREDIT: FIELD READY
FIELD READY EMPLOYEE WORKING AT THE ONLY FEMALE-LED MAKERSPACE IN ERBIL, IRAQ

WHAT'S NEXT? LOOKING TO THE FUTURE

In the past year, innovators we fund have demonstrated how bold solutions can have a transformative impact on communities affected by conflict. Examples include early-warnings of incoming airstrikes; electrification of households and businesses; locally-produced PPE; repair of life-saving medical devices; and access to clean water, among many other groundbreaking humanitarian efforts.

However, we also have seen how systemic barriers exist, exacerbated by the pandemic, that are preventing innovations from being taken up and scaled - barriers such as a lack of funding opportunities for local actors and women-led innovation teams.

There is an opportunity to influence systems change through innovation and, in the coming year, the Humanitarian Grand Challenge partnership will continue to use its platform to advocate for and fund local innovation and to bring along key humanitarian actors to follow suit.

OUR GOALS FOR 2022 AND BEYOND



Support and scale up more locally-owned innovations through more tailored, national and regional outreach



Continue to support programs to respond to emerging crises (COVID-19, conflicts in Ethiopia, and Ukraine) with innovations developed in this portfolio



Highlight barriers and promote the impact of innovative solutions in addressing them



Explore additional partnerships to expand the reach of the program, and create new programmatic streams to promote various aspects of support in conflict settings



Secure more funding for the humanitarian sector to support innovation



CREATING
HOPE
IN CONFLICT:

A HUMANITARIAN
GRAND CHALLENGE

PHOTO CREDIT: MANDULIS ENERGY

TECHNICIAN LOADING AGRICULTURAL PROCESSING RESIDUES INTO BIOMASS POWER PLANT